

B) Remarks:

1. The plasma film-forming apparatus of new claims 9 or 11 includes the plural radicals producing sources respectively connected to the plural cleaning-gas introducing pipes as shown in Figs. 3 and 4. The plural cleaning-gas introducing pipes are not connected to the common radicals producing source. The radicals producing sources respectively correspond to one of the cleaning-gas introducing pipes. There is a lot of flexibility or varieties in the layout of the radicals producing sources. Accordingly, the distances between the radicals producing sources and the introducing ports into the chamber can be shorter. Accordingly, the dissipation of the radicals can be suppressed when the radicals flow in the cleaning-gas introducing pipes. The cleaning rate can be higher since more radicals are introduced into the chamber from the plural radicals producing sources through the plural cleaning-gas introducing pipes.

The claimed apparatus including the plural radicals producing sources respectively connected to the plural cleaning-gas introducing pipes is not disclosed or suggested in any of the references and cannot be obtained from a combination of the references.

2. In Li et al. (U.S. 5,772,771), the plural pipes (34) are arranged in a ring-like pattern and are facing to the center of the chamber (18) as shown in Fig. 4. Such arrangement of the pipes (34) causes the concentration and the collision of the cleaning gases at the center of the chamber (18). The collision of the cleaning gases may produce turbulent flow preventing the cleaning gases from diffusing. Accordingly, the cleaning gases cannot reach the inner circumferential wall of the chamber (18). An unreachable area for the cleaning gases is therefore not cleaned.

In the apparatus of new claims 10 and 12, as shown in Fig. 4, the plural cleaning-gas introducing pipes (33a), (33b), are respectively connected to the opposite walls (2a), (2b) of the chamber (10), and are offset from the centers of the opposite walls (2a), (2b) in opposite directions without facing each other. Accordingly, the cleaning gases blow out into the chamber (10) without the concentration and the collision at one position or point such as the center shown in Fig. 4 of the cited reference (U.S. 5,772,771), and thus can uniformly reach the inner walls of the chamber (10). Accordingly, the chamber (10) can be uniformly cleaned.

Therefore, the apparatus of claims 10 and 12 is not disclosed or suggested in any of the references and cannot be obtained from a combination of the references.

It is believed that the foregoing amendments place this application in condition for allowance. Accordingly, favorable reconsideration with notice of allowance is requested.

Respectfully submitted,

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